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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/670,066

09/23/2003

Jozsef Szendrovani

DT-6621

5109

30377

7590

08/06/2004

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EXAMINER

NGUYEN, GEORGE BINH MINH

ART UNIT

PAPER NUMBER

3723

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/670,066	SZENDROVARI ET AL.	
	Examiner	Art Unit	
	George Nguyen	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Claims 1-12 are presented for examination.

This application has been filed with formal drawings which are acceptable to the examiner.

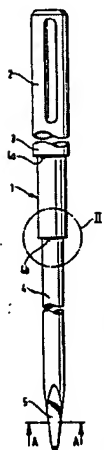
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz et al.'5,145,237 in view of Jenne'4,508,181.

With reference to Figure 1, Schulz et al.'237 discloses the claimed invention except for the tapered shaft having axial grooves.

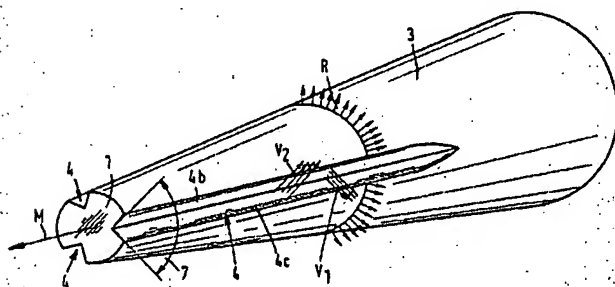


In FIG. 1 a cutter bit 1 is illustrated and comprises a shank extending axially between a trailing end 2, arranged to be inserted into a tool chuck, and a leading or cutting end 5. The shank has a first axially extending section 3 of constant cross-section extending from the trailing end to a second axially extending section 4 which has a diminishing cross-section toward the leading end 5. The reduction in the cross-section of the second section 4 is effected in steps, as shown in FIG. 1 the second section has two steps 4a, 4b. The first step 4a is at the transition from the first section 3. The second step 4b is spaced axially from the first step toward the leading end 5.

With reference to Figure 1, Jenne teaches that it is known to have a tapered shaft having 3 axial grooves. The advantage of the tapered shaft having axial groove is to

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give rise on the front end of the driving head to a sort of star bit having as many cutting edges as there are longitudinal grooves. The earth located ahead of the front of the driving head is therefore split up upon entry of the head. As a result, the earth is already plowed up at the front end of the driving head.



The inventive driving head thus not only provides cutting edges on its front end for splitting and pulverizing the earth which is to be entered, but also, in addition to surfaces which generate radial displacement components, provides cutting edges which are disposed on the surface and result from the line of contact between the longitudinal grooves and the conical surface. The radial displacement components, which result from the conical surfaces, are supplemented by displacement components which extend at right angles to the side faces of the longitudinal grooves. The inventively designed driving head kneads, pushes, displaces, plows through, splits, and chisels the ground in an optimum manner and

directions, so that the earth is displaced in that direction which offers the least resistance to displacement. The inventive configuration furthermore gives rise on the front end of the driving head to a sort of star bit having as many cutting edges as there are longitudinal grooves. The earth located ahead of the front of the driving head is therefore split up upon entry of the head. The parts of the split up earth subsequently receive axial impact pulses, with some parts sliding into the longitudinal grooves. As a result, the earth is already plowed up at the front end of the driving head. The earth granules which slide into the longitudinal grooves are subsequently subjected to three force components, namely a radial component brought about by the cone inclination, and two displacement forces, each of which extends at right angles to one of the two side faces of the longitudinal grooves.

hereby achieves a high travel accuracy at a simultaneously high speed. Since the longitudinal grooves can be easily produced with a V-shaped cross section, it is furthermore possible to manufacture the inventive driving head in an economical manner not only by casting but also by mechanical machining. Providing end faces between the individual conical sections results in stabilization edges which have a positive effect on the displacement action and travel stability of the inventive driving head.

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Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the shaft of Schulz with tapered shaft having axial grooves as taught by Jenne in order to kneads, pushes, displaces, plows through, splits, and chisel the ground in an optimum manner and hereby achieves a high travel accuracy at a simultaneously high speed (col. 2, lines 67 to col. 3, lines 5).

Regarding to the limitations of number of grooves, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized n

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number of grooves set forth in the claims, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Furthermore, the result would have been expected. The applicant has not cited any criticality of the number of grooves.

Regarding to the limitations of the cross section, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the cross section set forth in the claims, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. Furthermore, the result would have been expected. The applicant has not cited any criticality of the cross section in the specification.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bawden'1,532,468, Neamand'2,629,588, Watson'1,551,717 all discloses cutting bits with axial grooves.

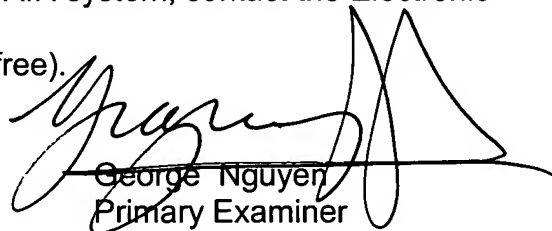
Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Nguyen whose telephone number is 703-308-0163. The examiner can normally be reached on Monday-Friday/630AM-300PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703-308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George Nguyen
Primary Examiner



George Nguyen
Primary Examiner
Art Unit 3723

GN – August 4, 2004